

HARDWARE CPU UTILIZATION METER FOR A MICROPROCESSOR

Abstract

- 5 A hardware based solution to CPU utilization and power management that avoids an additional set of software tasks to monitor CPU utilization. The system has a CPU, a counter; a monitor, and a clock. The clock provides a CLK signal to the counter when a software task is running on the CPU, and the counter counts the number of clock pulses since a RESET. The monitor samples and holds the value of the counter at the last
- 10 RESET. The counter outputs a signal to the monitor that is responsive to the count content at the time of the last reset. The monitor outputs this value as a control signal.. This control signal may be a power control signal, a function control signal, or even a clock control signal, responsive to count content.. For example, the counter may output a control signal reducing power input or clock pulse input to the CPU responsive to
- 15 monitor value when the CPU utilization is below a threshold.